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Levels of engagement in establishing coaching relationships

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Case studies of two coaches that examine the levels of engagement of each coach as they worked to establish effective coaching relationships were examined in this study. Data were collected during a seven-month period and included: (a) the coaches' reflective journals; (b) pre- and post-surveys from each coach and teacher; (c) audio-recorded post-interviews with each teacher; and (d) audio-recordings of meetings with the coaches, the teachers, and the researcher. The data were analysed using a framework from Cognitive CoachingSM that describes three support functions of a coach: consulting, collaborating and coaching. The results of this study support Costa and Garmston's findings that these support functions serve different intentions and are not equally useful in moving teachers toward becoming reflective, self-directed practitioners.

Keywords: school-based coaching; Cognitive CoachingSM; professional development; mathematics education

School-based coaching has recently become very popular across the nation as a way to provide sustained, embedded professional development for teachers as they strive to improve their practice. However, coaching has actually been on the educational scene since the early 1980s. Showers and Joyce (1982) are typically credited as the first researchers to study coaching. Their model, called peer coaching, focuses on pairs of teachers coaching each other. Over the years many other models have emerged in the literature, including technical coaching, collegial coaching, content-focused coaching, cognitive coaching, challenge coaching, team coaching, and reflective coaching (Greene 2004).

Three recent reports have attempted to describe the current state of school-based coaching, based on several large-scale programs being implemented across the United States (Neufeld and Roper 2003; Poglinco et al. 2003; Richard 2003). These reports describe (a) the various roles and responsibilities of coaches; (b) training programs for coaches; (c) conditions that support successful coaching programs; (d) challenges involved in coaching; and (e) suggestions for improving coaching. Based on anecdotal data, the reports all agree that coaching seems to have great potential for improving student achievement. However, all three studies point out that there is a lack of research-based evidence to support this claim.

Most of the limited research that has been conducted on coaching focuses on (a) improving instructional practice (Licklider 1995; Showers and Joyce 1996; Kohler et al. 1997; Delany and Arredondo 1998; Becker 2001; Race, Ho, and Bower 2002; Ai and Rivera 2003); and (b) applications within teacher preparation programs (Morgan et al. 1994; Mallette, Maheady, and Harper 1999; Brooks 2000; Bowman and McCormick 2001; Veenman et al. 2001). This body

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of research is mainly focused on the in-service and pre-service teacher and generally indicates that coaching led to improved instructional practices. Much less prevalent in the literature are studies that focus on the coach (Feldman and Tung 2002; Coggins, Stoddard, and Cutler 2003; Mangin 2005). These studies describe various roles and responsibilities of coaches but do not provide in-depth understandings about coaches' interactions with teachers. In order to understand how coaches can support teacher professional growth, studies are needed that provide insights into the specific interactions and engagement coaches have with teachers. In this article I present case studies of two coaches that examine the levels of engagement of each coach as she worked to establish effective coaching relationships.

Background

The coaching relationships for this project involved one coach and one teacher. Both of the coaches were mathematics education faculty and the two teachers taught at the elementary school level. The overall goal was for the coaches to improve their coaching abilities and to support the teachers in improving their instructional practice.

The coaches had not received any formal training in coaching. The goal was for each coach and teacher to meet an average of twice a week during the seven months of the project. The coaches also met once a month to review, discuss and analyze their experiences as coaches. Twice during the project the coaches and teachers all met together to reflect, evaluate and debrief about their coaching experiences. It is important to point out that each of the coaches had a full-time job in addition to taking on this coaching responsibility. In particular, this study focused on two questions:

- How do coaches' interactions with teachers vary across time?
- What effect do these variations have on the coaching relationship?

Data sources

Data for this study were collected during a seven-month period. There were two levels of data collection. The coaches collected data from their individual coaching experiences to inform their own learning. These data included reflective journals of their experiences and, in some cases, videotapes of meetings and/or teaching, and copies of student work. I had access to all of these data. At a broader level I collected data on the entire project. These data included: (a) pre- and post-surveys from each coach and teacher regarding their prior experiences in coaching and their concerns and goals for the current coaching experience; (b) audio-recorded post-interviews with each teacher; (c) audio-recordings of seven meetings involving the coaches and the researcher; and (d) audio-recordings of two meetings involving the teachers, coaches and researcher. Each of these meetings was typically 8–10 hours in length and took place over two days at a time. All audio-recordings were transcribed for detailed analysis.

Data analysis procedures

A method for analyzing case study data known as *reflective analysis* (Gall, Borg, and Gall 1996) was utilized in this study. Reflective analysis involves a decision by the researcher to rely on his or her own intuition and personal judgment to analyze the data rather than on technical procedures involving an explicit category classification system. In conducting reflective analysis the researcher carefully examines and then reexamines all the data that have been collected. As this process continues certain features of the phenomena are likely to become salient. The researcher

should then develop an understanding of these features by themselves and in relation to each other. In other words, the analysis should account for as much of the phenomenon being studied as possible. For example, when analyzing the data from this study, I worked through the data chronologically in order to identify the critical issues related to the research questions of the study (e.g. How do the coaches' interactions with the teachers vary across time? What effect do these variations in coaches' interactions have on the coaching relationship?). I then continued to track those issues and identify shifts as they occurred. In this way I was able to formulate claims that spanned the entire data set but were still empirically grounded in the details of the specific coaching experiences.

Orientation

Costa and Garmston (2002) provide a framework within Cognitive CoachingSM that describes the various support functions of a coach. The four categories of the framework are evaluating, consulting, collaborating and coaching. Costa and Garmston suggest that 'three of these functions, coaching, collaboration, and consulting, interact to improve instructional practice' (2002, 9). I framed my analysis of the coaches' interactions with teachers around these three support functions.

Within Cognitive CoachingSM the function of *coaching* is considered the preferred mode of operation because it moves the teacher toward becoming a reflective, self-directed practitioner. However, Costa and Garmston (2002, 9) point out that 'each function plays a significantly different role, with very different mechanisms and intentions'. In *consulting*, the coach serves as an information specialist providing expertise in content, instructional practices, or curriculum. *Collaboration* occurs when the coach and the teacher work together to reach a common goal. This can include planning lessons together, co-teaching, and many other forms of collaborative activity. Finally, in *coaching*, the role of the coach is to mediate the teacher's thinking through the use of intentional questioning strategies. While each of these support functions can contribute to transforming teacher practice, *coaching* is regarded as the most effective and *consulting* as the least effective (Costa and Garmston 2002).

It is important to point out that the coaches in this study had not been trained in Cognitive CoachingSM so they were not aware of the support functions framework during their work with the teachers. In Cognitive CoachingSM there are specific processes associated with each support function. This analysis does not focus on those specific processes since these coaches had not received training in Cognitive CoachingSM. However, the general framework as described in the previous paragraph can be useful for describing coaches' interactions with teachers regardless of the coaching model utilized.

The case of Shannon

Background and context

Shannon taught mathematics courses at the community college level and had been involved in a variety of coaching experiences. She worked with Alicia for this coaching project. Alicia taught third grade at a small elementary school (P-5) in a rural part of her state. Alicia was a ten-year veteran teacher but had only been teaching mathematics for three years and still felt somewhat uncomfortable with the content. For the last three years, her school had been implementing a standards-based mathematics curriculum.¹ She had never been involved in a coaching relationship but worked with Shannon on another project prior to working together in this coaching project.

The coaching experience

Establishing the relationship

Shannon had a concern from the beginning that she had not really done a good job establishing the purpose for this coaching relationship. In her pre-survey Alicia verified that she did not really understand the purpose of the coaching experience. 'I'm really unclear as to what's supposed to be going on. What is the goal for the teacher/coach relationship?' This lack of clear focus impacted the coaching relationship.

Phase I, October–January

Alicia and Shannon began their coaching relationship with Shannon observing Alicia's teaching. However, Shannon was aware that she needed to work on building a relationship with Alicia and decided it might be more productive if she could just come in to assist as Alicia taught a lesson rather than doing a formal observation. Alicia was open to this idea. The first lesson was on subtraction and Shannon had some concerns about the students' understanding of place value. During the post-conference Alicia suggested that only about half of the students could correctly perform the subtraction procedure. Shannon then added that really none of the students seem to conceptually understand what they were doing with the procedure and she offered to show Alicia how to use base-ten blocks² to help students conceptually understand subtraction.

Unfortunately Shannon and Alicia did not get to have the base-ten session until three weeks later. Alicia had never used base-ten blocks and found the session very useful and expressed excitement about what she had learned. They agreed that Shannon would teach the whole-class lesson the following day and Alicia would assist by helping with small groups.

Shannon and Alicia had different interpretations of the lesson the following day. Shannon had concerns about the logistics and management of the lesson. She attributed this to her lack of experience in teaching third-grade students. However, there was evidence that students began to understand the subtraction algorithm more conceptually. Alicia thought the lesson was great and during a brief discussion of the lesson said that 'for the first time they [the students] understood what they were doing'.

Alicia decided to use the base-ten blocks in a follow-up lesson that she would teach when the principal would be observing. Shannon was glad that Alicia wanted to provide students another opportunity to build conceptual understandings of subtraction. She did not get to observe the lesson but talked with Alicia on the phone to debrief. Alicia thought the lesson went well and the students were ready to move on to multiplication. Shannon was a bit concerned because she did not get to observe the lesson. She wanted to make sure that Alicia understood that just having students use the base-ten blocks was not enough. The students also needed to make mental connections between their actions with the blocks and the written steps of the procedure. Shannon did not discuss this concern with Alicia.

Their meeting to plan the transition to multiplication was cancelled due to a scheduling conflict at Alicia's school. Shannon was frustrated. They were only getting to meet once a week at the most and had to cancel several meetings for various reasons. Another frustration for Shannon was the lack of a shared goal. She knew that Alicia wanted to focus on developing number sense but felt that 'accomplishing much progress in this area was too much to expect'. Shannon thought they should instead 'work on the meaningful concepts that underlie the basic operations that Alicia was so concerned that her students master'.

Because of winter break Shannon was not able to get back to Alicia's classroom until mid-January, six weeks after their phone conversation about Alicia's subtraction lesson. The goal for this meeting was to get back on track for making the transition to multiplication. Alicia expressed

some frustration with the standards-based curriculum and how it did not seem to help her students master multiplication skills, but she felt pressured to 'stick to the [standards-based] lessons'. Shannon also felt frustrated that, from Alicia's perspective at least, there was no room for professional judgment when using the curriculum. She suggested an alternate lesson that would build on the standards-based lesson but would address Alicia's concerns. Shannon also agreed to teach the lesson in case there might be reprisals for not following the curriculum.

As Shannon drove to the school the next morning she thought about how to engage Alicia and Linda (the special education teacher) in the lesson. She thought perhaps she could have them look for something specific in the lesson that could help to focus their discussions after the lesson. However, she did not have time to get this resolved prior to the lesson. In retrospect, she decided this was very unfortunate as Alicia and Linda 'were just watching on the sidelines much of the time and chimed in every once in a while to keep the students on track'. The discussion following the lesson was very unproductive from Shannon's perspective. Basically, Alicia's assessment of the lesson boiled down to 'some were getting it'. Shannon was not sure that Alicia understood what she was trying to do in the lesson. She was actually introducing an alternate multiplication algorithm based on an area model. She wanted Alicia to focus on how to follow up on the students' thinking that was evidenced in the lesson but was unsure how to bring this topic into the conversation. Shannon noted that the lack of pre-planning significantly hampered Alicia's involvement and learning in this lesson.

Phase II, February–May

Shannon identified the first joint coaching meeting of all coaches and teachers in early February as a crucial event in supporting a shift in the relationship between her and Alicia. First, they were able to socialize outside of the classroom setting and bond on a personal level. Second, watching a commercial video of a standards-based lesson helped Alicia 'get a vision of what could happen in her classroom'. As a result, Alicia 'knew she wanted her students to work together and communicate more about math'. Alicia acknowledged that her students were more competitive than cooperative. This provided an opportunity for Shannon and Alicia to discuss what avenues they could take to help her students become more cooperative. They decided to try the same lesson from the video in Alicia's class since it aligned with the content she was currently teaching. Shannon wanted to push the conversation to focus on adapting the lesson for Alicia's students and on specific strategies Alicia could use to foster cooperative learning. However, Alicia seemed to think that since the students were already sitting in groups she could just ask them to work together. A third way that this coaches' and teachers' meeting helped Shannon and Alicia was that they were able to finally agree upon a shared goal for their work: building number sense.

Shannon observed Alicia teach the lesson from the video and was immediately concerned that she gave every student the materials instead of giving each group of students a set of materials so they would have to work together more cooperatively. Instead, students worked independently, competing to find the correct answer. The students directed all questions to Shannon and Alicia, so as Shannon worked with small groups of students, she encouraged them to discuss and share their ideas with each other. After completing the activity Alicia instructed students to each write an explanation of the process they had used to solve the problem. Shannon suggested that Alicia allow students to work in pairs with one person writing while the other dictated the process. During their discussion after the lesson Shannon was encouraged that Alicia noticed that the way she managed the materials (giving every student a set of materials) worked against the cooperative learning goal they had established.

During the next planning meeting Shannon and Alicia focused on how to address their goal of building number sense. They decided to incorporate some activities with the hundreds board³

and that Shannon would teach the lesson. Shannon reflected on this decision and was not sure it was the wisest choice. Alicia had not used hundreds-board activities before but neither had Shannon. They had little time to discuss an in-depth plan for the lesson that included questioning and sequencing issues, so Shannon decided it was expedient for her to just teach a model lesson. Her concern was this might not be the best way for Alicia to learn. During the hundreds-board lesson, Alicia and Linda initially just observed until Shannon encouraged them to circulate around the room and see what students were doing. There was not enough time after the lesson to discuss it with Alicia and this continued to frustrate Shannon.

Alicia taught another cooperative learning lesson and Shannon was pleased with the improvements she made. This series of lessons focused on sorting 3-D shapes. Students worked in groups, shared materials, and had a designated writer and speaker. Shannon noted that Alicia did a great job of introducing and implementing the lessons. Alicia asked more 'why' questions and really focused on involving students in significant content discussions. She encouraged students to provide justifications for their thinking. Both Shannon and Alicia worked with small groups of students throughout the exploratory part of the lessons. Shannon sent Alicia an email expressing how great the lessons had gone and specifically mentioned the improvements Alicia was making. She pointed out that they worked well together. 'I felt like we bounced off each other really well and comfortably during those lessons'. In the same email Shannon volunteered to help Alicia get ready for testing. Alicia had told her that she would be using the next several Fridays for review. They decided to meet to plan for the upcoming week.

Shannon and Alicia decided to focus on measurement for the review on the following Friday. In reflecting, Shannon expressed some concern about the level of planning in which they engaged. Typically they focused simply on the sequence of activities. She would have liked the discussions to have been more about the justifications for sequencing of activities and asking questions to get at a deeper level of understanding. They did not get to discuss the lesson after it was taught, but Shannon sent an email with some reflections later in the day.

In the next coaches' meeting Shannon referred to this email and said it was the first time she communicated with Alicia in this very direct way. 'I just outlined what I liked, what I thought could have been better, and what I wish we could have done'. She was anxious to talk with Alicia about the email but because of spring break and testing did not see her for about four weeks. Shannon thought they would probably spend their last bit of time together just focusing on cooperative problem-solving lessons where they could engage the students in sharing their thinking and working together.

Shannon and Alicia only got to do one more pre-conference and observation due to busy schedules at the end of the school year. Shannon acknowledged that 'scheduling is by far one of the biggest obstacles to coaching'. Shannon said she was tempted to just say she would plan a lesson, teach it, and then they could talk about it, but she knew this would be 'a step backwards' and 'not be nearly as effective as I would have anticipated because Alicia would not have been involved with the planning'.

The case of Ava

Background and context

Ava was a professor at a university and taught math methods courses for undergraduate students. Ava worked with Vicki for this coaching project. Vicki was a ten-year veteran who taught third grade in a small rural elementary school (P-5). Her school, like Alicia's, was implementing a standards-based curriculum. The school was in the second year of implementation during this coaching project. Ava had been Vicki's advisor when she was in college, so they had known each other for some time.

The coaching experience

Establishing the relationship

During the November coaches' meeting Ava shared the role she and Vicki had negotiated for her as coach. Vicki wanted Ava to work with her as 'an extra pair of hands' during choice time. During this time students were presented with several math activities from previous lessons and they selected an activity of their choice. Vicki used this time as formative assessment and to address individual learning needs. Vicki expressed excitement about having Ava as another teacher in the room to help with the one-on-one attention students needed during this time.

Phase I, November–December

On the day after the November coaches' meeting, Ava arrived at Vicki's school but they had not previously discussed the day's activities due to a holiday break. Consequently Ava was not completely clear about what would be happening that day. Vicki asked Ava if she would teach the math lesson (factors and multiples) and Ava agreed even though she had not had time to properly plan. After the lesson Vicki and Ava discussed the misconceptions some students were having with the mathematics and how they might address those issues in future lessons.

During her next visit Ava taught the lesson, which freed Vicki to focus on individual students. Ava and Vicki met after school the following day to plan for the next two weeks. Vicki expressed how valuable it was for her to have Ava teach the lessons because it allowed her and Tammy (the special education teacher) to focus on the students. They were able to observe individual students' thinking and provide immediate feedback.

At the next coaches' meeting Ava shared a concern she had about her coaching relationship with Vicki. In the beginning they had established that Ava would be an 'extra pair of hands' but now Vicki wanted her to teach all the time. Ava did not understand why there had been this shift in her role. She wanted to find a way to transition Vicki back to teaching so Ava could focus on 'coaching'. She questioned whether model teaching was really coaching.

Phase II, January–May

A continuing frustration for Ava was not having the time for adequate pre- or post-conferences. She and Vicki were finally able to arrange for a half-day devoted to planning future lessons and discussing student work. Ava noted that she could see such a difference in Vicki's confidence level. Vicki talked about her students and the positive changes she had noticed in their mathematical thinking.

During their next pre-conference meeting Vicki brought student work to discuss. Vicki had really become focused on the students' thinking and allowed that to guide her instruction. During this pre-conference Ava was also able to seamlessly make the transition from her teaching to Vicki teaching. In discussing the upcoming lesson she simply said to Vicki, 'So, how are *you* going to start the lesson?'. The next day, during the lesson, Ava took detailed notes and created a transcript that she sent to Vicki electronically. She included questions for Vicki to probe her thinking.

A few days later they discussed a lesson Vicki taught but Ava did not observe. Vicki expressed a concern that some of the students had in completing the activity. Ava asked if the students could be given their papers to think about again and make revisions in a different color. Vicki was really excited about this idea because she utilized this exact procedure in the writing process. She had a classroom set of green pens for this very purpose! Vicki tried this the following day and the students were quite successful in finding and correcting their own mistakes. They already knew this process from writing and were able to apply it to mathematics.

In February Ava and Vicki were able to meet for pre-conferences on a more regular basis. Ava took extensive field notes during her observations and sent them to Vicki electronically. She included questions for Vicki to think about so this served as a post-conference. Ava noted that Vicki '[was] so focused on the children's mathematical thinking. She really understands the importance of looking at children's thinking and trying to figure out how to get them to think in other ways'.

At the April coaches' meeting Ava shared that she had seen such professional growth in Vicki. At the beginning of their relationship Vicki was constantly asking questions and seemed to lack confidence. Now she was proactive in collecting and using students' work to inform her instruction and had made great gains in encouraging her students' mathematical thinking and communication. Ava also pointed out that Vicki had become much more reflective about her instructional practice and was constantly questioning what she could do to improve her teaching and her students' learning.

In May the teachers joined the coaches for a final meeting to debrief about the coaching experiences. The teachers also participated in interviews. Vicki said that one of the most effective parts of the coaching experience for her was that she and Ava had the same goals. The least effective part of the experience for Vicki was not having enough time to spend with Ava in pre- and post-conferencing. She said the emails were very helpful but she really wished they could have had more face-to-face interactions. Vicki also expressed that this experience had helped her grow as a teacher more than any other professional development experience in which she had participated. Vicki said the most important thing she learned was how to use student work to inform her instruction. This was not something she really had done before and she could tell the difference in her students' mathematical abilities and confidence levels. Vicki also pointed out that she learned to let her students think for themselves instead of thinking for them. She credited Ava with really helping her to understand that allowing students to think for themselves would empower them. Vicki felt this whole experience had made her a much stronger teacher.

Analysis

Levels of engagement

As previously noted, the support functions of *consulting*, *collaboration* and *coaching* were used to frame the analysis of the coaches' levels of engagement. Costa and Garmston (2002) argue that *coaching* is the most effective support function that can contribute to transforming teacher practice. *Collaboration* would come next on the effectiveness continuum and *consulting* is considered the least effective. Therefore, the goal for a coaching relationship would be to spend as much time as possible in the *coaching* level of engagement. However, there are times when a coach needs to engage in the support function of *collaboration* or *consulting*. In this section I use the support function framework to classify each coach's activity as described in the previous section. It should be noted that in each phase identified below, multiple support functions are present. In other words, navigating among the support functions of *consulting*, *collaboration* or *coaching* is not a linear process. I categorized the classifications for each phase based on the majority of the coaches' interactions during that time frame.

Shannon, Phase I

During Phase I Shannon was engaging in the support function of *consulting*. In consulting the coach serves as an information specialist providing expertise in content, instructional practices, or curriculum. There were two main indicators which illustrate the consulting nature of the coaching relationship. First, Shannon instructed Alicia in appropriate content-specific instructional

strategies. Shannon observed Alicia teaching and noticed deficiencies in the students' understandings of place value. She offered to teach Alicia how to use base-ten blocks to support students' conceptual understandings of place value in subtraction. She then taught a model lesson using the base-ten blocks so Alicia could observe.

Second, Shannon planned and implemented lessons. When operating in the consulting support function, lesson planning is an individual activity. In one particular case Shannon thought about how to engage Alicia in the lesson she had planned. She wanted to have her look for something specific in the lesson that could help to focus their discussions after the lesson. However, she did not have time to get this resolved prior to the lesson. In retrospect, she decided this was very unfortunate as Alicia 'was just watching on the sidelines much of the time and chimed in every once in a while to keep the students on track'. Shannon noted that the lack of collaborative pre-planning really hampered Alicia's involvement and learning in this lesson.

Shannon, Phase II

During Phase II Shannon engaged in the support function of *collaboration*, which is characterized by the coach and the teacher working together to reach a common goal. Three critical events during this phase illustrate the collaborative nature of the coaching interactions. First, and most significantly, Shannon and Alicia agreed upon a common goal for their work. This critical shift occurred at the February coaches' and teachers' meeting when they finally agreed to focus on building number sense. This common focus permeated the remainder of the coaching relationship. Second, Shannon really questioned whether the model teaching she was doing was the best way for Alicia to learn. At one point when she and Alicia were having trouble finding time to co-plan a lesson, Shannon was tempted to just say she would plan and teach a lesson but she realized this would be 'a step backwards' and 'not be nearly as effective as I would have anticipated because Alicia would not have been involved with the planning'. Finally, during this phase, Shannon and Alicia began to engage in co-teaching and co-planning. As previously mentioned, Shannon recognized the ineffectiveness of planning lessons without Alicia. In addition, when Alicia taught the lesson Shannon now interacted with the students more in the role of a co-teacher.

Ava, Phase I

During Phase I Ava engaged in the support function of *collaboration*. At the beginning of the coaching relationship Ava and Vicki negotiated her role as coach. Vicki wanted Ava to work with her as 'an extra pair of hands'. Vicki asked Ava to teach a few lessons during this phase. However, each time this happened they had a pre-conference, a post-conference, or both to discuss student learning together. Vicki told Ava how valuable it was for her when Ava taught because it allowed her time to observe individual students' thinking and to provide immediate feedback to them. Even though Vicki found the model teaching useful so she could focus on students' thinking, Ava wanted to find a way to transition back to Vicki teaching the lessons. Ava did not feel that the model teaching was the negotiated coaching role they agreed upon and did not think it was the most useful learning experience for Vicki.

Ava, Phase II

During Phase II Ava engaged in the support function of *coaching*. In coaching, the role of the coach is to mediate the teacher's thinking through the use of intentional questioning strategies. Instead of telling the teacher what to do, the coach supports the teacher in being self-directed and

reflective about her own practice. The most significant indicator of this shift was Ava moving away from model teaching. In addition, Ava collected specific data on instructional strategies and student learning during her observations of Vicki's teaching to use during post-conferences. These data provided opportunities for Ava to ask intentional questions to support Vicki's growth as a reflective practitioner. On the occasions when they did not get to have a face-to-face post-conference, Ava sent the data and questions to Vicki electronically for her consideration. At the end of the coaching experience, Ava pointed out that Vicki had become much more reflective about her instructional practice and was constantly questioning what she could do to improve her teaching and her students' learning.

Discussion

Even though this article focused on case studies of only two coaches, some implications for a broader audience can be offered. These case studies provide insights into the specific interactions and engagement coaches have with teachers. Wang and Odell (2002) point out that little is known about the intricacies of coaching conversations and relationships. In-depth analyses, such as these case studies, are needed in order to begin to understand how coaches can support teacher professional growth. Two critical issues focusing on the coaches' level of engagement that emerged from this project can offer insights to others involved in school-based coaching experiences.

First, clearly defining the role of the coach and the goal of the coaching experience seems imperative. Shannon and Alicia both acknowledged that this was not an effective part of their experience early on. In fact, it was not until four months into the project that they finally agreed upon the focus of their work. On the other hand, Ava and Vicki established the purpose of their coaching experience at the very beginning. It is well documented in the literature that a lack of clear focus is a common problem in many coaching experiences (e.g. Neufeld and Roper 2003; Poglinco et al. 2003; Richard 2003). What this study can add to this finding is how this lack of focus can be viewed in terms of the level of engagement. Clearly, it is important to have established goals for the coaching experience. However, the goals need to be negotiated collaboratively between the coach and the teacher in order to move the level of engagement from consulting to collaboration. For example, when Shannon and Alicia finally negotiated a common goal, this event was critical in transitioning the level of engagement from consulting to collaboration. However, Shannon spent four months engaging in the support function of consulting before she was able to make the transition to collaboration. Conversely, Ava and Vicki collaboratively established a shared goal from the beginning of their coaching experience. This event set the stage for Ava to engage in the support function of collaboration from the outset.

Second, both coaches in this study felt that model teaching was not the best vehicle for supporting their teachers' professional growth. Model teaching is listed as a role of coaching throughout the literature (e.g. Showers and Joyce 1996; Neufeld and Roper 2003; Poglinco et al. 2003; Richard 2003). However, little has been written about the effectiveness of this professional development strategy. This study offers some insights into model teaching and the coaches' views on its effectiveness. Shannon and Ava both engaged in model teaching; however, they did so at different levels of engagement. When Shannon was engaged in consulting, her model teaching was more of an individual activity. Vicki was not involved in the planning of the lesson and they frequently did not have post-conference discussions about the lessons. Shannon noted that the lack of collaborative pre-planning really hampered Alicia's involvement and learning in these lessons. On the other hand, Ava was engaged in collaboration when she taught model lessons. She and Vicki planned the lessons together and discussed students' work and misconceptions after the lessons. Even though Ava and Vicki's experience was more collaborative and Vicki valued

the opportunity to focus intently on individual students' thinking, Ava did not feel she was fulfilling the coaching role they negotiated. She did not believe the model teaching was helping Vicki to become a reflective practitioner. Both Shannon and Ava stopped using model teaching in their coaching experiences and focused on the classroom teacher being in charge of instruction. This is not to say that model teaching cannot be an effective professional development strategy. Clearly, Vicki benefited by watching Ava teach lessons. The distinction between the ways model teaching was implemented in these two cases is important. The model teaching was effective when it was a collaborative event in which the teacher and the coach were both involved in the planning. However, even when the model teaching was collaborative, Ava felt the need to move beyond that strategy to further Vicki's development as a reflective practitioner.

Concluding thoughts

This study supports Costa and Garmston's (2002) findings that the coaching support functions of *consulting*, *collaboration* and *coaching* have different intentions and are not equally useful in moving teachers toward becoming reflective, self-directed practitioners. Alicia made more progress when Shannon engaged in collaboration (Phase II) and Vicki's learning was deepened when Ava engaged in coaching (Phase II). There is a lack of research on coaches' interactions with teachers in coaching situations and how they can support teacher professional growth. Simply identifying the roles and responsibilities of coaches does not provide us with the depth of understanding that is needed. How the roles are enacted, the level of engagement, seems to be a critical missing piece in the research literature. This study has described the detailed interactions between two coaches and two teachers and has provided insights into how the specific levels of engagement impacted the teachers' professional growth in different ways.

Notes

1. A standards-based mathematics curriculum is aligned with the National Council of Teachers of Mathematics *Professional Standards for School Mathematics*.
2. Base-ten blocks, also called Dienes blocks, are manipulatives used to model place value (Dienes 1969).
3. A hundreds board is a ten-by-ten grid numbered sequentially from 1 to 100.

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